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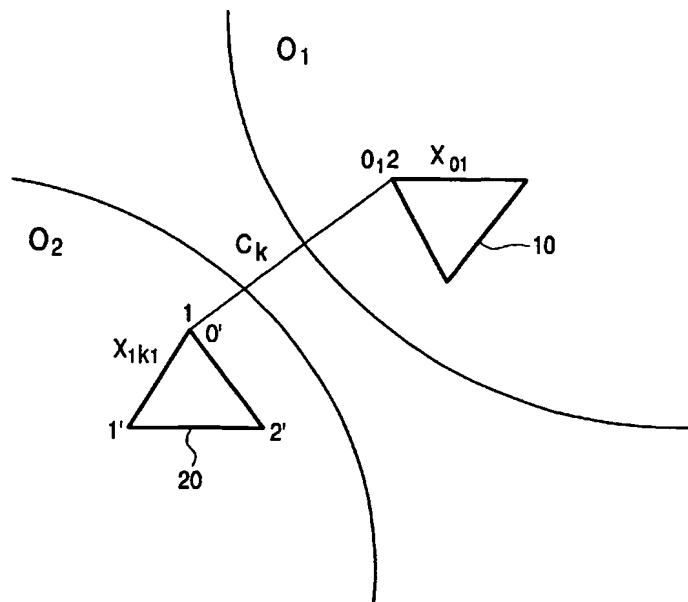
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(54) Title: SIMULTANEOUS SEGMENTATION OF MULTIPLE OR COMPOSED OBJECTS BY MESH ADAPTATION



(57) Abstract: Deformable models are used for the segmentation of structures in 3D images. The basic principle of such methods consists of the adaptation of flexible meshes to the image. However, the simultaneous segmentation of multiple or composed objects often causes problems in that spatial relationships between the objects are violated, or that meshes are intersecting each other. According to the present invention, a priori knowledge about spatial relationships between objects is introduced into the shaped model. This allows to maintain spatial relationships between the objects and to avoid intersecting meshes.



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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

INSPEC, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHIA-WEI LIAO ET AL: "Simultaneous surface approximation and segmentation of complex objects"	1-5,7
Y	COMPUTER VISION AND IMAGE UNDERSTANDING, JAN. 1999, ACADEMIC PRESS, USA, vol. 73, no. 1, pages 43-63, XP004444647 ISSN: 1077-3142 sections 2.3.2, 4.3., 4.4. --- -/--	6,8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>MCINERNEY T ET AL: "Deformable models in medical image analysis"</p> <p>PROCEEDINGS OF THE IEEE WORKSHOP ON MATHEMATICAL METHODS IN BIOMEDICAL IMAGE ANALYSIS (CAT. NO.96TB100056), PROCEEDINGS OF THE WORKSHOP ON MATHEMATICAL METHODS IN BIOMEDICAL IMAGE ANALYSIS, SAN FRANCISCO, CA, USA, 21-22 JUNE 1996,</p> <p>pages 171-180, XP001179897</p> <p>1996, Los Alamitos, CA, USA, IEEE Comput. Soc. Press, USA</p> <p>ISBN: 0-8186-7367-2</p> <p>cited in the application</p> <p>section 3.3</p> <p>abstract</p>	1,4,5,7
X	<p>BARDINET E ET AL: "A parametric deformable model to fit unstructured 3D data"</p> <p>COMPUTER VISION AND IMAGE UNDERSTANDING, JULY 1998, ACADEMIC PRESS, USA,</p> <p>vol. 71, no. 1, pages 39-54, XP004448868</p> <p>ISSN: 1077-3142</p> <p>section 3.1, 3.2</p> <p>abstract</p>	1,4,5,7
Y	<p>WEESE J ET AL: "Shape constrained deformable models for 3D medical image segmentation"</p> <p>INFORMATION PROCESSING IN MEDICAL IMAGING. 17TH INTERNATIONAL CONFERENCE, IPMI 2001. PROCEEDINGS (LECTURE NOTES IN COMPUTER SCIENCE VOL.2082), INFORMATION PROCESSING IN MEDICAL IMAGING. 17TH INTERNATIONAL CONFERENCE, IPMI 2000. PROCEEDINGS, DAVIS, CA,</p> <p>pages 380-387, XP009027152</p> <p>2001, Berlin, Germany, Springer-Verlag, Germany</p> <p>ISBN: 3-540-42245-5</p> <p>cited in the application</p>	6,8
A	<p>sections 2., 2.2, 2.3</p>	1,5,7
P,A	<p>WO 02 073536 A (PHILIPS CORP INTELLECTUAL PTY ;KONINKL PHILIPS ELECTRONICS NV (NL))</p> <p>19 September 2002 (2002-09-19)</p> <p>abstract</p>	1,7

INTERNATIONAL SEARCH REPORT

Information on patent family members

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